Exhibit 10

Sent: Wed 8/26/2020 9:17:03 PM (UTC)
From: gilesh@google.com
To: gilesh@google.com, stadler@google.com, satk@google.com, saranm@google.com, gpankaj@google.com, unsuk@google.com, aurash@google.com, sfrey@google.com, ack@google.com
Subject: AAAAtzQpwE4-MBI-THREADED:eq5u6tLfmkw%%%2020-08-26T02:17:02.862607

gilesh@google.com 2020-08-26T21:17:02.862Z

Spun up a doc to summarize where we are with the various options:
https://docs.google.com/document/d/1xRY76Y0QoQ_M5GxsNmX3KN9zASDUmEqlqQ7DehedIz8/edit?hl=en#

https://docs.google.com/document/d/1xRY76Y0QoQ_M5GxsNmX3KN9zASDUmEqlqQ7DehedIz8/edit?hl=en#
https://drive.google.com/open?id=1xRY76Y0QoQ_M5GxsNmX3KN9zASDUmEqlqQ7DehedIz8
Deleted on2022-02-17T21:17:02.862Z

Spun up a doc to summarize where we are with the various options:
https://docs.google.com/document/d/1xRY76Y0QoQ_M5GxsNmX3KN9zASDUmEqlqQ7DehedIz8/edit?hl=en#

https://docs.google.com/document/d/1xRY76Y0QoQ_M5GxsNmX3KN9zASDUmEqlqQ7DehedIz8/edit?hl=en#
https://drive.google.com/open?id=1xRY76Y0QoQ_M5GxsNmX3KN9zASDUmEqlqQ7DehedIz8
gilesh@google.com 2020-08-26T21:17:18.501Z

We can fill in the details as they come in

Deleted on2022-02-17T21:17:18.501Z

We can fill in the details as they come in

stadler@google.com 2020-08-26T21:21:39.532Z

Giles, can you add some timeline details to that doc? On the Phonesky side (for option 2) this would require some scrambling, so I'd like to be able to add concrete details about when we could even feasibly push out new code. (The upcoming 4 day weekend, for example, adds complication)

Deleted on2022-02-17T21:21:39.532Z

Giles, can you add some timeline details to that doc? On the Phonesky side (for option 2) this would require some scrambling, so I'd like to be able to add concrete details about when we could even feasibly push out new code. (The upcoming 4 day weekend, for example, adds complication)

stadler@google.com 2020-08-26T21:42:08.420Z

Quick update from Phonesky: We believe that the proposed mitigation (granting app ops to the ~50 affected apps) is possible. I will update the summary doc to match. We are looking for any additional risks with this approach but none so far.

Deleted on2022-02-17T21:42:08.420Z

Quick update from Phonesky: We believe that the proposed mitigation (granting app ops to the ~50 affected apps) is possible. I will update the summary doc to match. We are looking for any additional risks with this approach but none so far.

gilesh@google.com 2020-08-26T21:42:56.897Z

Thanks, Andy - I also added timeline

Deleted on2022-02-17T21:42:56.897Z

Thanks, Andy - I also added timeline

nb. The timeline is very tight. I'm looking now at the potential upcoming release dates.

Deleted on2022-02-17T21:47:50.220Z

nb. The timeline is very tight. I'm looking now at the potential upcoming release dates.

satk@google.com 2020-08-26T21:50:04.131Z

wow, that is a great news!

Deleted on2022-02-17T21:50:04.131Z

wow, that is a great news!

gilesh@google.com 2020-08-26T22:07:26.307Z

Sat - can you comment on how tight the timeline is - if we could only get a fix out by EO Sept, would that be good enough?

Deleted on2022-02-17T22:07:26.307Z

Sat - can you comment on how tight the timeline is - if we could only get a fix out by EO Sept, would that be good enough?

stadler@google.com 2020-08-26T22:14:12.515Z

@Pankaj Gupta - your comment in the options doc - "It will also be global apps like whatsapp, amazon, truecaller etc." - seems to broadly expand the scope beyond the earlier "~50 IN payment apps". Can you & Giles make sure we have a clear idea as to the size/nature of the target apps list?

Deleted on2022-02-17T22:14:12.515Z

@Pankaj Gupta - your comment in the options doc - "It will also be global apps like whatsapp, amazon, truecaller etc." - seems to broadly expand the scope beyond the earlier "~50 IN payment apps". Can you & Giles make sure we have a clear idea as to the size/nature of the target apps list?

saranm@google.com 2020-08-26T22:18:50.306Z

Can we also have clear guidelines on temporary timeline? @Pankaj Gupta realistically how much time developers need to migrate to the same fix as gpay / paisa

Deleted on2022-02-17T22:18:50.306Z

Can we also have clear guidelines on temporary timeline? @Pankaj Gupta realistically how much time developers need to migrate to the same fix as gpay / paisa

gpankaj@google.com 2020-08-26T22:21:28.671Z

@Andy Stadler right, e.g., whatsapp has UPI enabled in their app for IN

Deleted on2022-02-17T22:21:28.671Z

@Andy Stadler right, e.g., whatsapp has UPI enabled in their app for IN

gpankaj@google.com 2020-08-26T22:21:50.799Z

@Sara N-Marandi not sure as this involves 3P developers/companies

CONFIDENTIAL

GOOG-PLAY5-000362733

Deleted on2022-02-17T22:21:50.799Z

@Sara N-Marandi not sure as this involves 3P developers/companies

gpankaj@google.com 2020-08-26T22:22:21.705Z

let's wait for @ack to also chime in when he wakes up in IN

Deleted on2022-02-17T22:22:21.705Z

let's wait for @ack to also chime in when he wakes up in IN

gpankaj@google.com 2020-08-26T22:22:42.388Z

@Ambarish Kenghe

Deleted on2022-02-17T22:22:42.388Z

@Ambarish Kenghe

stadler@google.com 2020-08-26T22:24:18.655Z

OK. It seems fairly important to understand the full set of affected apps, for two reasons.

Deleted on2022-02-17T22:24:18.655Z

OK. It seems fairly important to understand the full set of affected apps, for two reasons.

gilesh@google.com 2020-08-26T22:24:32.703Z

Do they have IN-localized versions?

Deleted on2022-02-17T22:24:32.703Z

Do they have IN-localized versions?

gilesh@google.com 2020-08-26T22:24:40.183Z

That we could target?

Deleted on2022-02-17T22:24:40.183Z

That we could target?

gpankaj@google.com 2020-08-26T22:25:04.999Z

@Giles Hogben whatsapp does not have an IN-localized version afaik. It is the same global apk

Deleted on2022-02-17T22:25:04.999Z

@Giles Hogben whatsapp does not have an IN-localized version afaik. It is the same global apk

stadler@google.com 2020-08-26T22:25:19.631Z

1. Are we comfortable granting the broad ops to all of the apps in the set

Deleted on2022-02-17T22:25:19.631Z

1. Are we comfortable granting the broad ops to all of the apps in the set

I don't think it's feasible to roll out this fix outside IN

Deleted on2022-02-17T22:25:37.699Z

I don't think it's feasible to roll out this fix outside IN

stadler@google.com 2020-08-26T22:25:44.722Z

2. Depending on set size we may run into scalability concerns

Deleted on2022-02-17T22:25:44.722Z

2. Depending on set size we may run into scalability concerns

gpankaj@google.com 2020-08-26T22:26:18.853Z

maybe we only do this for IN apps and accept that.... will need @Ambarish Kenghe to comment

Deleted on2022-02-17T22:26:18.853Z

maybe we only do this for IN apps and accept that.... will need @Ambarish Kenghe to comment

gilesh@google.com 2020-08-26T22:26:48.927Z

Yep - or we take a 2-pronged approach - devrel for large global devs and appops for IN-localizable devs

Deleted on2022-02-17T22:26:48.927Z

Yep - or we take a 2-pronged approach - devrel for large global devs and appops for IN-localizable devs

stadler@google.com 2020-08-26T22:26:56.290Z

Giles, understand your concern and desire for geofencing but we need to be more concrete about what that would actually mean. There's no silver bullet and there are multiple error cases.

Deleted on2022-02-17T22:26:56.290Z

Giles, understand your concern and desire for geofencing but we need to be more concrete about what that would actually mean. There's no silver bullet and there are multiple error cases.

gpankaj@google.com 2020-08-26T22:27:03.126Z

Agree

Deleted on2022-02-17T22:27:03.126Z

Agree

unsuk@google.com 2020-08-26T22:34:11.615Z

If we're going to do a 0-day OTA to limit the restrictions to only target SDK apps - we need to make sure that partner oems' software also would have the fix

Deleted on2022-02-17T22:34:11.615Z

If we're going to do a 0-day OTA to limit the restrictions to only target SDK apps - we need to make sure that partner oems' software also would have the fix

So I added Steven and Ryan

Deleted on2022-02-17T22:34:40.022Z

So I added Steven and Ryan

unsuk@google.com 2020-08-26T22:35:07.143Z

Also if we're going to use App Ops to grant the permission, we may have to relax the CDD rules (and if there is a CTS test) and GMS requirements.

Deleted on2022-02-17T22:35:07.143Z

Also if we're going to use App Ops to grant the permission, we may have to relax the CDD rules (and if there is a CTS test) and GMS requirements.

unsuk@google.com 2020-08-26T22:35:12.605Z

So let me know if that's the final outcome.

Deleted on2022-02-17T22:35:12.605Z

So let me know if that's the final outcome.

aurash@google.com 2020-08-26T22:40:47.954Z

Unsuk, why would we need to relax CDD rules?

Deleted on2022-02-17T22:40:47.954Z

Unsuk, why would we need to relax CDD rules?

unsuk@google.com 2020-08-26T22:42:14.569Z

It's hypothetical at this point, but IIRC we do have language around exposing identifiers to 3P apps

Deleted on2022-02-17T22:42:14.569Z

It's hypothetical at this point, but IIRC we do have language around exposing identifiers to 3P apps

unsuk@google.com 2020-08-26T22:42:35.124Z

and if we use Play to expose such identifiers we would be in violation of such requirement.

Deleted on2022-02-17T22:42:35.124Z

and if we use Play to expose such identifiers we would be in violation of such requirement.

unsuk@google.com 2020-08-26T22:43:53.693Z

https://source.android.com/compatibility/10/android-10-cdd#9_8_5_device_identifiers

https://source.android.com/compatibility/10/android-10-cdd#9_8_5_device_identifiers
Deleted on2022-02-17T22:43:53.693Z

https://source.android.com/compatibility/10/android-10-cdd#9_8_5_device_identifiers

https://source.android.com/compatibility/10/android-10-cdd#9_8_5_device_identifiers

why isn't it feasible to roll this out beyond IN?

Deleted on2022-02-17T23:48:30.736Z

why isn't it feasible to roll this out beyond IN?

aurash@google.com 2020-08-26T23:48:58.097Z

seems like it is feasible, but not desirable. are we sure we fully understand the problem space / it is scoped to just those 50 apps?

Deleted on2022-02-17T23:48:58.097Z

seems like it is feasible, but not desirable. are we sure we fully understand the problem space / it is scoped to just those 50 apps?

aurash@google.com 2020-08-26T23:49:11.544Z

or is this just the first report

Deleted on2022-02-17T23:49:11.544Z

or is this just the first report

unsuk@google.com 2020-08-26T23:54:42.751Z

@Giles Hogben can you answer Aurash?

Deleted on2022-02-17T23:54:42.751Z

@Giles Hogben can you answer Aurash?

gilesh@google.com 2020-08-26T23:57:33.739Z

On feasibility - yes it's feasible but highly undesirable. More context on that in a privileged context

Deleted on2022-02-17T23:57:33.739Z

On feasibility - yes it's feasible but highly undesirable. More context on that in a privileged context

gilesh@google.com 2020-08-26T23:58:00.903Z

GPay folks seemed fairly confident on the scope but I'll let them comment

Deleted on2022-02-17T23:58:00.903Z

GPay folks seemed fairly confident on the scope but I'll let them comment

aurash@google.com 2020-08-27T00:04:17.256Z

can you start a privileged thread and send the context? or is there guidance not to do that

Deleted on2022-02-18T00:04:17.256Z

can you start a privileged thread and send the context? or is there guidance not to do that

aurash@google.com 2020-08-27T00:05:27.346Z

i assumed that on the existing fleet this data is accessible, so this was more about moving the ball forward on privacy in R, but maybe i misunderstood

Deleted on2022-02-18T00:05:27.346Z

i assumed that on the existing fleet this data is accessible, so this was more about moving the ball forward on privacy in R, but maybe i misunderstood

aurash@google.com 2020-08-27T00:45:42.418Z

wait, why aren't we doing option 3?

Deleted on2022-02-18T00:45:42.418Z

wait, why aren't we doing option 3?

aurash@google.com 2020-08-27T00:45:45.061Z

i just saw that option

Deleted on2022-02-18T00:45:45.061Z

i just saw that option

aurash@google.com 2020-08-27T00:45:58.755Z

gives developers time to respond, fixes the short term issue

Deleted on2022-02-18T00:45:58.755Z

gives developers time to respond, fixes the short term issue

aurash@google.com 2020-08-27T00:48:51.928Z

stadler informs me it requires an ota per oem. i could believe this is a pita

Deleted on2022-02-18T00:48:51.928Z

stadler informs me it requires an ota per oem. i could believe this is a pita

stadler@google.com 2020-08-27T01:03:19.279Z

Giles, what's the next step? When will we know which option to pursue? I'm hesitant to start building in Phonesky until we know that's the plan. Limited resources and all that.

Deleted on2022-02-18T01:03:19.279Z

Giles, what's the next step? When will we know which option to pursue? I'm hesitant to start building in Phonesky until we know that's the plan. Limited resources and all that.

gilesh@google.com 2020-08-27T01:08:29.856Z

Will need to discuss with Dave and Suzanne

Deleted on2022-02-18T01:08:29.856Z

Will need to discuss with Dave and Suzanne

gilesh@google.com 2020-08-27T01:29:22.271Z

FYI we are trying to pull together a meeting this evening to discuss POR

Deleted on2022-02-18T01:29:22.271Z

FYI we are trying to pull together a meeting this evening to discuss POR

sfrey@google.com 2020-08-27T01:34:24.038Z

Aiming for 8:30 pm

Deleted on2022-02-18T01:34:24.038Z

Aiming for 8:30 pm

stadler@google.com 2020-08-27T01:38:32.011Z

feel free to add me if needed, "I'll be home" ☹

Deleted on2022-02-18T01:38:32.011Z

feel free to add me if needed, "I'll be home" ☹

ack@google.com 2020-08-27T01:46:29.813Z

Folks, this is the list of 20 3rd party apps in India -- https://www.npci.org.in/upi-PSP%263rdpartyApps

https://www.npci.org.in/upi-PSP%263rdpartyApps
Deleted on2022-02-18T01:46:29.813Z

Folks, this is the list of 20 3rd party apps in India -- https://www.npci.org.in/upi-PSP%263rdpartyApps

https://www.npci.org.in/upi-PSP%263rdpartyApps
ack@google.com 2020-08-27T01:47:30.867Z

Beyond this many banks would have it implemented in their mobile banking apps -- guess is that it is under 50 but e can find out

Deleted on2022-02-18T01:47:30.867Z

Beyond this many banks would have it implemented in their mobile banking apps -- guess is that it is under 50 but e can find out

ack@google.com 2020-08-27T01:48:52.113Z

Only a couple of global apps here and AFAIK, WA has global APK but limited presence in India on UPI. Even other global apps may have limited presence

Deleted on2022-02-18T01:48:52.113Z

Only a couple of global apps here and AFAIK, WA has global APK but limited presence in India on UPI. Even other global apps may have limited presence

aurash@google.com 2020-08-27T01:49:08.640Z

To clarify, is this the set of payment providers?

Deleted on2022-02-18T01:49:08.640Z

To clarify, is this the set of payment providers?

Or the set of apps we have verified using the impacted api?

Deleted on2022-02-18T01:49:22.565Z

Or the set of apps we have verified using the impacted api?

ack@google.com 2020-08-27T01:49:30.581Z

please note this chat does NOT have History OFF and India does not have Attorney client privilege

Deleted on2022-02-18T01:49:30.581Z

please note this chat does NOT have History OFF and India does not have Attorney client privilege

ack@google.com 2020-08-27T01:49:48.889Z

Hence you are seeing that confidential thread

Deleted on2022-02-18T01:49:48.889Z

Hence you are seeing that confidential thread

aurash@google.com 2020-08-27T01:49:57.305Z

(are we sure it is not used more broadly than these 50 apps)

Deleted on2022-02-18T01:49:57.305Z

(are we sure it is not used more broadly than these 50 apps)

aurash@google.com 2020-08-27T01:49:59.129Z

Ack

Deleted on2022-02-18T01:49:59.129Z

Ack

ack@google.com 2020-08-27T01:54:04.184Z

https://www.npci.org.in/upi-live-members

https://www.npci.org.in/upi-live-members
Deleted on2022-02-18T01:54:04.184Z

https://www.npci.org.in/upi-live-members

https://www.npci.org.in/upi-live-members
ack@google.com 2020-08-27T01:54:52.345Z

you have to take the applications column + 20 from the other link

Deleted on2022-02-18T01:54:52.345Z

you have to take the applications column + 20 from the other link

ack@google.com 2020-08-27T01:56:33.299Z

so more like ~70 but we can get the exact numbr internally... only 4-5 players are doign ~90%+ of the volume is my understanding but we can get all that data from NPCI directly as needed

Deleted on 2022-02-18T01:56:33.299Z

so more like ~70 but we can get the exact numbr internally... only 4-5 players are doign ~90%+ of the volume is my understanding but we can get all that data from NPCI directly as needed

gilesh@google.com 2020-08-27T01:57:16.757Z

Is it PSP's and Issuers affected or just PSP?

Deleted on 2022-02-18T01:57:16.757Z

Is it PSP's and Issuers affected or just PSP?

ack@google.com 2020-08-27T01:58:53.997Z

Application Name column is the one to look at

Deleted on 2022-02-18T01:58:53.997Z

Application Name column is the one to look at

aurash@google.com 2020-08-27T01:59:03.655Z

I'm still not clear though. Are we sure SubscriptionInfo.getICCID() is *only* used for this one use case globally?

Deleted on 2022-02-18T01:59:03.655Z

I'm still not clear though. Are we sure SubscriptionInfo.getICCID() is *only* used for this one use case globally?

aurash@google.com 2020-08-27T01:59:36.232Z

(had we done that analysis before we locked it down and this payments case was missed?)

Deleted on 2022-02-18T01:59:36.232Z

(had we done that analysis before we locked it down and this payments case was missed?)

ack@google.com 2020-08-27T02:01:24.614Z

That I can't comment on. Something for others from Android to comment on.

Deleted on 2022-02-18T02:01:24.614Z

That I can't comment on. Something for others from Android to comment on.

gilesh@google.com 2020-08-27T02:02:20.384Z

It's the same data as the getSubscriberID that we locked down in Q when we did major outreach etc...

Deleted on 2022-02-18T02:02:20.384Z

It's the same data as the getSubscriberID that we locked down in Q when we did major outreach etc...

ack@google.com 2020-08-27T02:03:12.777Z

Folks, *Please do consider if we nee to start a HISTORY OFF chat for this?* Threaded chats you can't turn off history.

Deleted on2022-02-18T02:03:12.777Z

Folks, *Please do consider if we nee to start a HISTORY OFF chat for this?* Threaded chats you can't turn off history.

aurash@google.com 2020-08-27T02:03:13.509Z

Yes but we didn't outreach about this api. Mainly trying to understand what will break when this rolls out so we don't have v2 of this fire from partner reports

Deleted on2022-02-18T02:03:13.509Z

Yes but we didn't outreach about this api. Mainly trying to understand what will break when this rolls out so we don't have v2 of this fire from partner reports

aurash@google.com 2020-08-27T20:53:56.885Z

is play billing impacted by this btw?

Deleted on2022-02-18T20:53:56.885Z

is play billing impacted by this btw?

aurash@google.com 2020-08-27T20:54:09.916Z

(have we reached out to them to see?)

Deleted on2022-02-18T20:54:09.916Z

(have we reached out to them to see?)

aurash@google.com 2020-08-27T20:56:21.033Z

@Giles Hogben

Deleted on2022-02-18T20:56:21.033Z

@Giles Hogben

aurash@google.com 2020-08-27T20:56:43.136Z

also, is gmscore subject to the same restrictions for this identifier? i was doing a code search and it looks like we use that call quite a bit

Deleted on2022-02-18T20:56:43.136Z

also, is gmscore subject to the same restrictions for this identifier? i was doing a code search and it looks like we use that call quite a bit

gilesh@google.com 2020-08-27T20:57:57.658Z

It's not - GMSCore has READ_PRIVILEGED_PHONE_STATE

Deleted on2022-02-18T20:57:57.658Z

It's not - GMSCore has READ_PRIVILEGED_PHONE_STATE

unsuk@google.com 2020-08-27T20:58:35.260Z

(i.e. preloaded apps can, 3p apps can't)

Deleted on2022-02-18T20:58:35.260Z

(i.e. preloaded apps can, 3p apps can't)

aurash@google.com 2020-08-27T20:59:45.792Z

i guess some add'l follow-ups we should chase:
1) is it default granted to all preloaded apps? or do you need to have the permission and be preloaded
2) is play billing (phonesky) impacted by this.
3) is google fi impacted? i saw some referernces to this identifier in their code

Deleted on2022-02-18T20:59:45.792Z

i guess some add'l follow-ups we should chase:
1) is it default granted to all preloaded apps? or do you need to have the permission and be preloaded
2) is play billing (phonesky) impacted by this.
3) is google fi impacted? i saw some referernces to this identifier in their code

aurash@google.com 2020-08-27T21:00:52.110Z

@Andy Stadler can you help with #2? seems like we should reach out to stavan@ on the payments side and raghareesh@ just to confirm we're in the clear

Deleted on2022-02-18T21:00:52.110Z

@Andy Stadler can you help with #2? seems like we should reach out to stavan@ on the payments side and raghareesh@ just to confirm we're in the clear

stadler@google.com 2020-08-27T21:01:13.330Z

Yes

Deleted on2022-02-18T21:01:13.330Z

Yes

aurash@google.com 2020-08-27T21:01:17.746Z

thanks!

Deleted on2022-02-18T21:01:17.746Z

thanks!

unsuk@google.com 2020-08-27T21:02:35.698Z

#1 both.
#3 carrier apps (signed with carrier specific certs, that matches the UICC's cert) are also exempted.

Deleted on2022-02-18T21:02:35.698Z

#1 both.
#3 carrier apps (signed with carrier specific certs, that matches the UICC's cert) are also exempted.

gilesh@google.com 2020-08-27T21:03:56.948Z

Fi isn't impacted - it's also available to apps with carrier privileges

Deleted on2022-02-18T21:03:56.948Z

Fi isn't impacted - it's also available to apps with carrier privileges

gilesh@google.com 2020-08-27T21:04:47.660Z

1) Permission is a priv permission - needs to be declared and whitelisted by OEM

Deleted on2022-02-18T21:04:47.660Z

1) Permission is a priv permission - needs to be declared and whitelisted by OEM